

SARDINA PILCHARDUS (WALBAUM, 1792): PROPOSED PRESERVATION AS THE NAME FOR THE EUROPEAN SARDINE (PISCES).
Z.N.(S.) 1614

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Sardina pilchardus (Walbaum, 1792) has been the name accepted for the European Sardine or Pilchard by the overwhelming majority of ichthyologists and fishery biologists since the revision of the clupeid fishes by Regan (1916, *Ann. Mag. nat. Hist.* (8) **18** : 1-19). However, a few workers have used an earlier alleged binominal name *Arengus minor* . . . Cornide, 1788. The object of the present application is to ask the Commission to reject for nomenclatural purposes the work of Cornide, J., 1788, entitled *Ensayo de una historia de los Peces . . . de la costa de Galicia, . . .* [264 pp.], [Corunna]. The intention of this action is to secure the availability of the generic name *Sardina* Antipa, 1904 (*Anz. Akad. Wiss. Wien* **41** : 302), and of the specific name *pilchardus* as used in the combination *Clupea pilchardus* by Walbaum, J., 1792 (*Artedi Ichthyologia* **3** : 38). The purpose of the application to suppress the work of Cornide (1788) is to seek an official ruling that any new names in this work are not binominal in accordance with Article 11 (c). A brief statement of the facts follows.

2. The work of Cornide (1788) follows the arrangement of the genera and species of Linnaeus (1766, *Systema Naturae*, 12th edition). On page 91 under the Spanish name *Sardina*, and before the pages devoted to the genus *Clupea*, Cornide gives a brief diagnosis of the fish, as follows, "Sp. 1. *Arengus minor* maxillis aequalibus". In the discussion (page 92) he concluded (correctly at that date) that there was no valid name for the European Sardine, which differed from the "*Arenque*" (Herring, *Clupea harengus* Linnaeus, 1758) of northern Europe in several ways, and he therefore proposed to call it "*Arengus minor* . . .". This name is used in both the index to the vernacular names under *Sardina* (page 236) and in the Latin name index under *Arengus* (page 246).

3. In the indices to the work, however, the names employed in the majority of cases appear to be binominal, but this is because the indices comprise the first two words of the diagnoses. Occasional three word entries in the index appear, viz. "*Clupea alosa parva*, *Echinus ovarius mar[inus]*, *Concha venerea cyp[rea]*, *Gadus dipteryg[ius] imberbis*", which lends support to the view that even the indices to this work are not consistently binominal. In addition, the last example "*Gadus dipteryg[ius] imberbis*" forms the first three words of the Linnean diagnosis of the Hake, *Gadus merluccius* Linnaeus, 1758, but Cornide, although recognising it as this species, did not employ the Linnean name.

4. The proposal that this work should be rejected for nomenclatural purposes on the grounds that Cornide did not consistently employ the principles of binominal nomenclature either in the body of the work or in the indices, is supported by the statement of Sherborn, C. D. (1902, *Index Animalium* : xix) that it was non-binominal. Such names as Cornide used, have with the single exception of *Arengus* (which has been used only by very few ichthyologists), been ignored by zoologists.

5. Later authors were either unaware of Cornide's name for the European Sardine or rejected it as non-binominal (e.g. Günther, A. C. L. G., 1868, *Catalogue of the Fishes in the British Museum*, 7 : 439), and for many years the accepted name for this fish was *Clupea pilchardus* Walbaum, 1792. Antipa (1904), however, proposed the generic name *Sardina* (non *Sardinia* Poey, 1858, see paragraph 6) for a species of Sardine *Sardina dobrogica* in the Black Sea, which was regarded as conspecific with *Sardina pilchardus* (Walbaum, 1792) by Regan (1916). Following Regan's revision, the name *Sardina pilchardus* (Walbaum, 1792) has been widely used in the European literature. In the voluminous fisheries literature of this species, as well as in European ichthyological works the Sardine has been referred to almost without exception as either *Clupea pilchardus* or *Sardina pilchardus* and the latter name embodying as it does, the basis of the vernacular names of this fish in all the major European languages, is well known.

6. The generic name *Sardina* was first published in a summary of Antipa's paper (by Steindachner, 1904, *Anz. Akad. Wiss. Wien*, 41 : 302) which included a diagnosis. This was published a year before the full text. In one place (page 303) in this summary the generic name is mis-spelt as *Sardinia* but elsewhere (page 302) it is correctly given as *Sardina*. In the full text of Antipa's paper (1905, *Denkschr. Akad. Wien*, 78 : 54), however, the form used is consistently *Sardina*, and this spelling has been consistently used by later authors. The status of the generic name *Sardina* Antipa, 1904 is not threatened under the Law of Homonymy by *Sardinia* Poey, 1858 (Article 56(a)). Hubbs, C. L. (1929, *Proc. Calif. Acad. Sci.* (4) 18 : 261-265) provided good evidence that *Sardinia* Poey referred to fishes of the genus *Sardinella* Cuvier & Valenciennes, 1847, and is thus a junior synonym of that name.

7. The generic name *Arengus* Cornide was revived by de Buen (1935, *Inst. Espanol. Oceanog. Notas y Resumes* (2) 88 : 43) who used it in the combination *Arengus pilchardus* (Walbaum, 1792). De Buen had earlier (1931, *Rapp. Proc.-verb. Réunions. Comm. int. Explor. Sci. Méditerranée*, 6 (new series) : 289-290) attempted to revive *Sardinia* Poey for the European Sardine despite Hubbs's (1929) demonstration that it was not available for the fish; however, in later publications, de Buen continued to use the name *Arengus pilchardus*, but his example has not been widely followed by ichthyologists, and one, Svetovidov (1952, (Clupeidae) *Table. anal. Faune U.R.S.S. N.S.* No. 48 (No. 1) : 186) in a comprehensive revision has specifically rejected it. In extra-European literature it has been rarely used, for example by Smith, J. L. B., (1949, *Sea Fishes of Southern Africa* : 92) and Fowler, H. W., (1941, *Bull. U.S. nat. Mus.* No. 100 (13) : 620-626) who both employ it as a senior synonym of *Sardinops* Hubbs, 1929. Both these authors refer to the type species of *Arengus* Cornide as *Arengus minor* Cornide, 1788.

8. Cornide's book is possibly a border line case as a binominal work. In following the arrangement of the twelfth edition of the *Systema Naturae* it employs mainly Linnean names, but they are not differentiated from the species diagnosis in a clearly binominal manner. For example, under the Spanish name *Murena* (page 1) he lists "Sp. 2. *Muraena ophis cauda aptera cuspidata corpore tereti*", which is, with only minor variation both the binomen and the

diagnosis given by Linnaeus, "*Muraena ophis*. 2. *M. cauda aptera cuspidata*, corpore tereti". Except in six cases the binomen is in no way distinguished from the diagnosis, either typographically or by punctuation, and it seems doubtful from the text whether Cornide had more than a loose conception of binominal nomenclature.

9. Accordingly, I request the International Commission for Zoological Nomenclature to take the following action:

- (1) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the generic name *Arengus* as rejected as published in a non-binominal work;
- (2) to place on the Official Index of Rejected Specific Names in Zoology the name *minor*, as published in the combination *Arengus minor* and rejected as published in a non-binominal work;
- (3) to place on the Official List of Generic Names in Zoology, *Sardina* Antipa, 1904, type species by monotypy *Sardina dobrogica* Antipa, 1904. [= *Sardina pilchardus* (Walbaum, 1792)];
- (4) to place on the Official List of Specific Names in Zoology, *pilchardus* Walbaum, 1792, as published in the combination *Clupea pilchardus* Walbaum, 1792;
- (5) to place on the Official Index of Rejected and Invalid Works in Zoological Nomenclature, the publication of Cornide, J., 1788, *Ensayo de una historia de los Peces y otras producciones marinas de la Costa de Galicia*, arreglado al sistema del caballero Carlos Linneo... [264 pages], [Corunna] (a work in which the author did not consistently apply the principles of binominal nomenclature).

COMMENT ON THE PROPOSED RULING ON THE TYPE-SPECIES OF *SCIAENA* LINNAEUS, 1758 Z.N.(S.) 850

(see volume 20, pages 349-360)

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As a student of the living fishes, I was especially interested in E. Trewavas' paper on *Sciaena*.

As the few Sciaenidae living in the Mediterranean are well-known and economically important species, it is very important to have their names fixed; we have too often had changes, and stability is highly desired by students and others.

Therefore, may I support Trewavas' action. Having personally considered this question, I think that the species involved must be so named: *Sciaena umbra*, *Umbrina cirrosa*, *Argyrosomus regius*. Alternative (i) as explained on page 353 of the paper quoted above, is therefore preferred. It also has the advantage of avoiding such names as "*Coracinus umbra*" and "*Sciaena cirrosa*" that are definitely unfamiliar to the Mediterranean student; with alternative (i) we may reach stability according to the rules and avoid too drastic changes.